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Sequence Listing could not be accepted due to errors.

See attached Validation Report.

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Reviewer: Anne Corrigan

Timestamp: [year=2008; month=2; day=22; hr=13; min=25; sec=55; ms=172; ]

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Reviewer Comments:

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<212> DNA

<213> Rattus norvegicus

<220>

<221> misc\_feature

<222> (1)..(178)

<223> n = a or c or g or t

<400> 1481

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aactcaattt ccccaaaagc nnaaaattgg gagacaattt tacatggact ttggaaaaca 120
ttttttttcct ttgcattcat ctctcaaact tagtttttat ctttgaccaa ctgaacgtgn 180
ccaaaaa                                     187
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Please change the above <222> response to: (1)..(180) because the last "n" is at location 180.

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Application No: 10580423 Version No: 1.0

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Finished: 2008-02-06 17:26:10.909  
Elapsed: 0 hr(s) 0 min(s) 28 sec(s) 399 ms  
Total Warnings: 0  
Total Errors: 1  
No. of SeqIDs Defined: 1617  
Actual SeqID Count: 1617

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# SEQUENCE LISTING

<110> Diggans, James C.  
Elashoff, Michael

<120> Methods for Molecular Toxicology Modeling

<130> GENE-120/02US

<140> 10580423

<141> 2008-02-06

<150> PCT/US2004/039593

<151> 2004-11-24

<150> PCT/US03/37556

<151> 2003-11-24

<150> 60/613,831

<151> 2004-09-29

<150> 60/554,981

<151> 2004-03-22

<160> 1617

<170> PatentIn Ver. 2.1

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<212> DNA

<213> Rattus norvegicus

<400> 1

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gcgtgtataa tcaactgtcct tggtcactac tggcatttac tgtttaacat caaaaaacaa 180
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<210> 2

<211> 158

<212> DNA

<213> Rattus norvegicus

<400> 2

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accctttgaa ctagaagctt tctattctga ccctcaagca gttccatata cagaagcaaa 60
aatcggccgt ttgtcgttc agaattgttc tgcacagaag atggagaaaa tctaaagtga 120
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<210> 3

<211> 318

<212> DNA

<213> Rattus norvegicus

<220>

<221> misc\_feature

<222> (1)..(318)

<223> n = a or c or g or t

<400> 3

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gtagttccac ttttcaaaca ccaaaagggg ggggangggg gaggagggtg tccttgctgt 120
cagataatta cattgttaat tccataatag catttacaat atcgttactg tngtttttna 180
gggctcggac agccttttgc cttgacacat ttgcttgtga catgaccaac tctatgtcct 240
taacttcac acccgtttca tcaacctcct cttcttcgnt ctctcttgg acagtcggcg 300
tctgcggtgt tctcctga 318
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<210> 4

<211> 308

<212> DNA

<213> *Rattus norvegicus*

<220>

<221> misc\_feature

<222> (1)..(308)

<223> n = a or c or g or t

<400> 4

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gaggacttag gagataagaa agaaggagaa tacattaaac tcaaagttat tggacaggac 120
agcagtgaga tccatttcaa agtgaaaatg acaacacatc tcaagaagct caaagaatcg 180
tactgtcaaa gacagggagt tccaatgant tcaactcagg ttctctttga aggtcagaga 240
attgctgata atcatactcc aaaagaactg ggaatggagg aagaagacgt gatttgaagt 300
ttatcagg 308
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<210> 5

<211> 608

<212> DNA

<213> *Rattus norvegicus*

<400> 5

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ctttgctgca agaagaatga ggttctgaac cttatccaa gaacagaagc catcagccaa 120
gtctccacat ttctctgcaa aatgtttag cctctataac tgtatgatag tgtaatgcat 180
gccttcagtt gtaagtggcc agatcgcgct acagtgacat tgaaacctgc tctctaattg 240
gccctgtaca gtttgcttat ttataaattc atttaaaaca ctacagctgt tgaatggtta 300
caacctacgc ctccggtcct aacttcagtt gttctcctcg gtgtgcagcc agctgttcca 360
cactgtatta ttgtaactta tttagtgaag tcagaagcag tagacagatg ttggtgcaat 420
acaagtattg tgtgcattta tcgtaataaa gtgctccgcg tcggttcagt tcctcacagc 480
ttctcacagt gcatgtctga ctgtagtctg taaatagagg tcagtgtccg tgctgctaac 540
aggtatcgat cgcacagaca tgatttcagg taaataaata gattctacga taaatgggta 600
aaagaaaa 608
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<210> 6

<211> 619

<212> DNA

<213> *Rattus norvegicus*

<400> 6

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ataattctgt gcattgggac tatagaaatg tcaactgtccc tgctccacat cttcaaatta 120
acattctcag gtcacaatag taagtcttcc cacaagggaac cttccggaaa aacaagctgt 180
ttctcggct catatttccc gctttttgta gcatgcacca gcaatctatc caagaagtat 240
```

```

atattgggga gtaaggagga gatccaccag caagcccaca gttgttaaca gccataagat 300
tagatacaag cacaaaggga tatgtcaaca tactggcaaa gaatcctgtg acagcttggg 360
aataactttt catttcattc atggtagaga cccactgtc cagtgcatag gtattgatga 420
gataagccag tgagttacac agccacaaag aaatgatgtc acctaggagg cgaggaatga 480
ggcccgcaaa aaatcctacg atgccttctt cccggtagat gggtactatg gagtacaca 540
gtccgcagta cttagactct ctgccgataa actgtaccat ggacctcaga gtaatcacct 600
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<210> 7

<211> 496

<212> DNA

<213> *Rattus norvegicus*

<400> 7

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ggtgagggcc agctaataaa gcctcccctc ccccccttaa ctttgttcat agggcaaagt 180
gctgacggaa ggagaagggt ggtaggttga gagggtatgc gtcaagactt ggggagaggt 240
agcagatagc cgtcttgagg ctctgttttc aatgagtagt cctagtcgac cttaaccaa 300
gctccatccg attgtattct tgccaaaaca caacagacac atgcacgaac atggggcgta 360
agcaataatg tcctctcgtg ttctccacgg ctgctcgaa caagtggctg gttcatttgg 420
ttgacactga ttgccttta accatgacgg ttctgtttt ttatttcaca gaaagccaat 480
aaaattgttt agctat                                     496

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<210> 8

<211> 617

<212> DNA

<213> *Rattus norvegicus*

<400> 8

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acacatgaaa cccagcagg accaacaagt gcggccttgc acttgtcaag gatgctgtag 120
aagaagaaac tattgagttt ccgtcttaat cctcttcaga acttgaatca tcctcttgg 180
cagaaagttc cggcacagg aagcggagaa tggcagctac tccagtcagc tgaccaagct 240
gttccccaga cacgtggaga ctggagaata tccttacggg gcccgcatc tctttcacac 300
tgtccaccag cctgacatac cggtccggg tggccacatc ctgatgccgg aagagctcat 360
cactgatgag caaggtgtca atcgccaagg cttcattggc cctctccacc tgcttgagtc 420
catagaatgc tcggtcagg tctgtctgta acattttgta gaagtcatcc aaggctttta 480
cttccccggc agctttcgtg tctgaaaggc ggctcgctac agtaggatca cataggacct 540
ctttcaggga gtacctgtgt ccagaggagg cgtgtacctg aaggaatttg gagccgtttt 600
ccaggagcac cttgttt                                     617

```

<210> 9

<211> 598

<212> DNA

<213> *Rattus norvegicus*

<220>

<221> misc\_feature

<222> (1)..(598)

<223> n = a or c or g or t

<400> 9

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tccttcctt ctgatcacta aaaaatgcaa gattcattcg ttacaagcca tgtgcgattc 120
ggaccctcgc aaggcagtc aggtctgcgg tccagcctca ggtgctgcac tatttcccat 180
tctcagcgct gaacattcgt tctgtgagca tccgctccaa ctttatggca tcagcagcaa 240

```

```

acttgcggat cccatcagag agctttctcca cagccatttg gtcttcattg tgcagccaac 300
ggaaggcctt ctcgccaga tgtatcttct ccaagtcact ggtctgggct gctttgacgg 360
aaagcgtggg tgcagcttg ctgctgtcct tgagcagctc cccagaagc ttgggtgaga 420
tggtgaggaa atcacagcct gccagcgctt tgatctcacc cgtgttacgg aaggaagcac 480
ccatgacaat ggtcttgtag ccaaactttt tgtagtagtt gtagattttt gtgacactct 540
tcaccccaag gtctctctgn ggttcgtagg atttcttgte gtgtttgcac atgcagtc 598

```

<210> 10

<211> 644

<212> DNA

<213> *Rattus norvegicus*

<400> 10

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gctttgacaa aataccggat acaaagaact gtaggaaaga atgatttggt ctggctccca 120
gtccattgta ccagtaggag cagctcataa ctgtaacagc aggaacatga gagttcgctc 180
acatctctgt cttgggagat ggtgtcagga gaagctcaag gtcacctca gggatgcagt 240
gaactcaagg ctagcctggg gtacatgaga ccagcatcca atcccgaacg gcatttttcc 300
ttcttgccgg atcatccttc ccagaaccct ggggagaaat gccaaactg tctgttcac 360
gtcatcttgt tttgcctgga ttttgtgggt gaggagcctt cagtcttctt cgagaacaca 420
taggtacaag acttgtaga atcttcagtc tttcctcaag tctggatgac agatcccttc 480
tattgctgct catcgtcttc aatttcgtca tctgggtgag caccactggg gacgggcgta 540
tcccacgcag ccaccgggc acgcacttag ccaactgaga agcccaccaa acgccagttc 600
cgggccactg ttggtccga cgcggttggg ggcgcgcgc ctc 644

```

<210> 11

<211> 646

<212> DNA

<213> *Rattus norvegicus*

<400> 11

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catatactta atctatgagg agaggctgac tactatctct tttatctctt tcaggagaag 120
gaaggcaagc aagaaaggga aggtcagcca ccatgactga aatccaggca atggctgaaa 180
gcctggaggt aagacaagta acttaactgt gtcaaaaagt ggggtcaaag gcgcagtagt 240
gccactacca cgaaggctga tcctggagtg ggtgctctg cccatcgga actctggttt 300
cttgggtggg ggggtgtgaa ggagtcctct tgttgactat gttaatgtga cagttaatag 360
gggtgacaca cccacatggc aggcacagc ggctgtgtg acatccacac acccacatca 420
aggtttctat taacttctgg tccccaaact cctgctctta gcagtagatc agaagtggta 480
cgcacgaatg cctggaaaat tccactctat gtaacacctt tggtttaaag acattttcca 540
gtgaataaca gtgaaaagt gaattagtaa ctattggtgt taaaccggt aattctcagg 600
atcaggccta tgggattcca ccatgcaatg tatctgaaca aattct 646

```

<210> 12

<211> 513

<212> DNA

<213> *Rattus norvegicus*

<400> 12

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aaagccatac atggatgggt agagtaagca gctgtacaga ggggacagca tcagtgtaca 60
tacattcatg tccagaacac ttagcataca tcagggttta tacaagggtg cagaggctat 120
aggcacaatg atacaaaata taaagtatat ttccatctat aaatacacag ccggggactt 180
ccctaggcac caatcctggc tccatcagtg cccttctctg ccatctcacc tccaacctca 240
gatcttccga gtggccggag gctgtttgta cctgggctgt tcctaagggg tcttgtaaag 300
ggcatcactg gccgccatgt tctcctgtca cccctcccc tctttcattc ctgtctaaga 360
atggacaaca ctctccctgt tgatatagag attcaacaat aaacaacaac atgacagatc 420
attcacaaaa gagcagtggg taaaagtgt ctcgtttaaa ggaagtcttt ggcaagaata 480

```

&lt;210&gt; 13

&lt;211&gt; 637

&lt;212&gt; DNA

&lt;213&gt; Rattus norvegicus

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)..(637)

&lt;223&gt; n = a or c or g or t

&lt;400&gt; 13

```
cataccagct caattttaat tttaaagtga aaaatgtaca ggtgggaaag ttaagcaacg 60
ccctgcagat tcataacaag gagctgacct agttgtccca ctacaagctg acagctctcc 120
agcagtgatt gatttgtcac agcacagaaa tgccacctg gacttgtggt ccgcttacta 180
actggaggaa gcagttttaa gtcttaccac ggctgtgct caaagtgagc actgcacttt 240
gagaaagttg tttgaccagt cagcaatgtc tgctagctga cttacccgac tggccatgag 300
tctcatctgc acgttgactc gcctagggga gggctcctggt ctgtgtcaaa ctctctggta 360
ccataaaaaac caagtaacgg tggatctgac aggttaccct gagagcttaa gaagcagagt 420
atttaacttc atttgtagan aagaagggag tagtacaggc tataggctga ggtagccttc 480
atttaaagtg caatctactt gcgataaata tagtaactag gacccgttcc aagcagctat 540
catagtcatg ttgatgctag ctaactagaa cctggttggt cagttctcac acacatcaca 600
agcagaagcc cttgcagtaa gctatcagtg agaagag 637
```

&lt;210&gt; 14

&lt;211&gt; 524

&lt;212&gt; DNA

&lt;213&gt; Rattus norvegicus

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)..(524)

&lt;223&gt; n = a or c or g or t

&lt;400&gt; 14

```
aatgttacca ctccaactat ttgccaacag taacactggt atattttgtc aatgtacaat 60
acagagagca cagcccctca tgactggtgc caggtcacat gcagcacagt tcctcttccc 120
tgtcagacag tgtctttaac taaggacaga cagtacgtgg agcgtaaagca agggattcgg 180
gcactgtgaa gggggcagct cctcgccagc tggccccagt cagatacact atggtggtca 240
gttctttctg tgcagatgac aagggaaga tgaaccatgc tgacagagga tggggcaggc 300
gggtcgagcc actgtgagtc agaaggctga cctccacggt gcaggatttg ctctctgcan 360
ggatacagag tgctcagttt gcagatctgc tggtagctga cctcgatgat gacgacatga 420
atgggaggga gatgggtgac ccaagcaggc cagcagagtg atgatgggcc agagagggct 480
cctgatctct cttgtggttg ggcaggcccc ggtggctcat gagg 524
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&lt;210&gt; 15

&lt;211&gt; 528

&lt;212&gt; DNA

&lt;213&gt; Rattus norvegicus

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)..(528)

&lt;223&gt; n = a or c or g or t

&lt;400&gt; 15

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gaaaattcca tacatggata taagggtgctt ttatcaaaac cataatgcat gtccttctca 60
ttcatctcct agtcctacat atctatctcc acctaaactc atgtgctttc ttttacagct 120
cactgaatcc ctttagcgctg cctatatgta gcgctaagtg caggtgtaca gcatgggtag 180
cctctcaggg accacatatc tgacgaaagc tgactctcct cccagcagtc atcccaacag 240
atctccaact agggatggga cttcctgata cctacccccc ttatgctgag actttgactg 300
agcttaatac tcttcaatat ttttctccta aataagattt ctaaacacag aactataaaa 360
ttttgagcag aaaaaagtct tgtttttatg tacacaagca taatctgtgg gtattgcagt 420
cacagattaa caagagcata aaaacgagag gcagagcaan gatctctttt cangaatgag 480
aaaaaaaccc acaaggctcc agatctccan anagtgggtg gcacaagg 528

```

<210> 16

<211> 597

<212> DNA

<213> *Rattus norvegicus*

<400> 16

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gcaaattgcac agtggacatg gctagcagac aagctgtgaa tgaataaaga gttcacactg 120
ctcccatgct gtagtgacta agacagctct aagccacctc ctctcagcc tctcctcaa 180
actctccttc ctctcagct gtagcatcct ggtactgctg gtactcggac accagggtcat 240
tcatgttgct ctccacctca gtgaactcca tctcatccat gccctcgccc gtgtaccagt 300
gttggaaggc cttgcgtcgg gacatggctg tgaactgctc tgagatgcgt ttgaaaagct 360
ccggaaaggc cgtgctagtt gccaatgaag gtgccgggca tttttaaggc accgggtgga 420
atgtcacaga cagctgtttt cacgttggtg gggatcaact cgggcaagta actgctgtcc 480
ctgttttggt catttaccat cgggtcgggc ccgcttcaa taacatgcgg ccctgaaaa 540
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```

<210> 17

<211> 591

<212> DNA

<213> *Rattus norvegicus*

<400> 17

```

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ccactagaaa aggtgagtaa aaaggaccca tgggtccatct ggggtccaacc aggggcggtg 120
gcacatgcct ttactcccat cacttgggag gtggaggcag gcagatctgt gaggttgagg 180
ccagcctggt tgacagtgag ttccaggcaa gccagagcta catactgaga ccctgtctca 240
aaacaaaagt ctatggagtg atatgaatgg tggggccggg caagcatcgt acctggcgtc 300
cagagcaggg cctgggcatt tctctggtac atgtaggagt gaggccttat gaaagacccc 360
gcactgagca gaggcacaga ggacactgcc tacctgtttg agctgtctac ctgtctccac 420
aggacaggcg gacattccaa tgccatcatc gtaggteccag cctgacttac acaccagaa 480
gggatcaagc ctggcctgca ttctgtaagg atgttcagaa cttcacggtg ctattcagag 540
ccccgagaa tagccggtcg cgggagatca ccagtggagt gtaaatgtcc t 591

```

<210> 18

<211> 520

<212> DNA

<213> *Rattus norvegicus*

<400> 18

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ttcaggccca aacagttcat gagtgcagca tgcagcacc c atgggtccact gcaggccact 60
ccatcagtag caagaccgga attatcagag accgggtgcct gtggcctgcc acccagggtg 120
cactcaagac gccaaagggtg tgggtttggc tgagtatgaa aggtaccagg cagaggtcag 180
cttggggcta tgtgagctgg ccaacccaag ggaagagggt aggtgaacag ggtttccagt 240
gtcccgtgta cccacggcg gccaaagggc taacatgggg tctctggtgc tgccaacaag 300
gcctacccta gtgctaagcc tgccgctgag tgagcaggtt gtgtgttggg gtcaggatgc 360
ccctcctaag gcgttactgc tataagctac tctgtcccag ggcagtaagg aaccacaggg 420

```



gacattttcc ccacgagggt ccaatgggtc aaatcactga agccttcagc gcctatggct 480  
ggcacaccag gggaacaagg gcgtgggcgt ggggtgtggag 520

<210> 19

<211> 589

<212> DNA

<213> *Rattus norvegicus*

<400> 19

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gtatagacaa ggggttgaaga aaagaaatga gtatgcagat acccgtgctg tgattgaagt 180  
agctaaagaa agcagtatta ctggcaaatg ctaacaaata actgtggggt gtgaattggg 240  
ggccccca cactcctgtg tttgaatgct cggctcacag ggagtggcac tgttaggagg 300  
tggcctcctt ggaggaagtg tgtcactgtg ggggtgggct ctggagggtc ctcctctcgc 360  
tcaggctcga ccacgtgggg agagcttcct tttggttcc tgtacaagac agtctctttc 420  
tgactgcctt tggatcaaga tgtagaactc tcagctcatt ctccagcacc attgatagga 480  
agcctggatg ctgccatgtc tgcccacctt gatgataatg gacggaacct ctgaaactgg 540  
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<210> 20

<211> 671

<212> DNA

<213> *Rattus norvegicus*

<220>

<221> misc\_feature

<222> (1)..(671)

<223> n = a or c or g or t

<400> 20

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tttactccaa tatctagaat gtctcaggac cacatgctga tactacacag aacagaaggg 180  
agctgagcag aaccacacgt aaatgcaaac ttaagaactt tatggtattg ctctgggtgcc 240  
ttatgtctta agcactgacc agagagttaa gtgtgagcta gaaaagtttt cagagaaatg 300  
agctgcagaa ctctctaccc cacccttagg ttattcagag caaggagggc tgatgtgggg 360  
gatgagaacc tacagactga acatcctgct ttcttctac ctcagtccga cgctggacat 420  
cctggagtgt aaggcactag aactggcctg agaagtgtc caagcttcag ttcttggtgt 480  
gcaaaagaaa ttgtggcata gatcttttga aacataataa aataactccc cctcctctt 540  
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<211> 631

<212> DNA

<213> *Rattus norvegicus*

<400> 21

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aaacggtttc tcacacacat ctgtgaggta ggttattatc cacattttgt acaagagaaa 240  
actacacaag gttacatacc ttgtgctgcc ataatagcaa acaggggaatt agatccaatt 300  
agatccggtc cttagctttg ctttctttt ctttataaac tttaaaatat aaagactgct 360  
agtaattgca ttcattttta aagcataaga aggcagccaa atagtttccc ggggtggcttt 420

```

acaaagtgaac acaaatgaac agaaaatgca ttcagtgaag acattccaat ggtgacgctg 480
taaggtctgg tcaagtggaa ccaaaaggca gaagcaaacc acgtgaccgc ctgtgggaca 540
ggtctcagga aaacggggga gctgggggca gcagactttg aacacacggt tacggctact 600
ctgcaagtat ttgagaatgc accaggtact c 631

```

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<210> 22
<211> 499
<212> DNA
<213> Rattus norvegicus

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<400> 22
ggtaacccaa ccaattcttt attgtaaaga tgagtgtctac aaaggaggcc tagtgtgtag 60
ggagtggggg gtcaccttct ttcaaggac tccacaaggt ccactagaga tgacatatag 120
ccaaggaata agcctgagcc agggcagcag tggttctgaa ctctattgga agttgggggt 180
ctgaatcaag cccactgacc cagggtccatg aggaagtgtt caatgtcatc gtagagacta 240
ttggtgctag acaagcacag gccaaagactg ctgctgtcca gagaggacac accctcacgc 300
tgcacgcctt ccagatgtgt cttgcacagc catgggtcca gcttcaccag gatcaggctc 360
ttctccttgg gcctccctgc tgacaagtct tgcccaaaac ccaggtagat ggtgtaatgt 420
ggtgatcctt gtcgcctccg ggcccggaaac tcctccagtt ctcggaagaa atgctgaagt 480
caaagatggg agtatggca 499

```

```

<210> 23
<211> 483
<212> DNA
<213> Rattus norvegicus

```

```

<400> 23
acataagaag gaattccaaa ggtataccca aggggcattg atcataagct gaacacgcag 60
agggccccaa cgaatggcac agagtctgaa cggattggca cgttcaactt ccattcatga 120
tggtggaata ctcttcttgg tgctcaacca ttctcagaaa cacttgatat ttcttgtcat 180
aatatttttt atcagcacgc tctgggaaca caaccttccc cactttgtct attcttgcca 240
ttgcctcctg cacagaagca aagtcctctg aggcacaggc acccagaata gcagctccca 300
cgaggacaga ctccacctct tgtgacagaa ccacaggcat gccagtaatg tcagcatgca 360
tttgacaaaa aaggggattc ttgcttaggc ctccacataa gaagagggta ctaagagaat 420
gtcctgctgc ttccatggtc tcaatgatga agcgagtccc gaaagcaatg gcttgaatag 480
tgg 483

```

```

<210> 24
<211> 558
<212> DNA
<213> Rattus norvegicus

```

```

<400> 24
gctaaaaaat gcctttatct ccagccagat aaaatttttt caactgtata tatggttaca 60
catgaaaagg tacacctctg tcgtcggcct tgtttacaag acccagagct tcttattaat 120
gtgagtatca aacaaccttc tttgtctctg aaacataact caagtaggcg gccgatggac 180
ctgccacaca cgtgttcgag gatggga

```